

To: All Rental Housing Tax Credit Recipients Notice: MFD-10-09

From: IHCDA Multi Family Department

Date: March 25, 2010

Re: ENERGY STAR® Windows New Performance Levels and Low-E coatings Alert

2010 ENERGY STAR® Raises Window Performance Levels

Effective January 4, 2010, ENERGY STAR® has raised the performance levels of ENERGY STAR® rated windows, doors, skylights, and all fenestration products as identified in the criteria below at Figure B from the ENERGY STAR® web site at: www.energystar.gov.

Windows purchased on or after January 4, 2010 must meet the new performance levels for tax credit developments that have received points for the ENERGY STAR® features identified in their initial tax credit application.

In addition, all fenestration products (doors, windows, etc...) are only ENERGY STAR® rated if their ratings meet the criteria for the climate region in which they are installed.

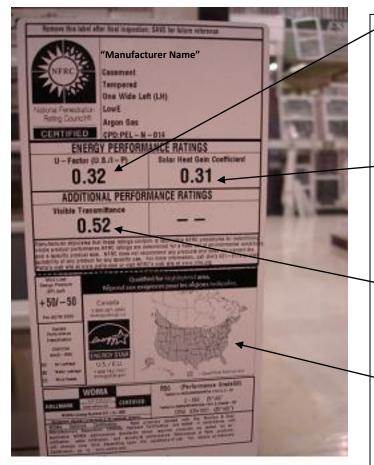
Figure A is an ENERGY STAR® energy certification label from the National Fenestration Rating Council® (NFRC). The label identifies the energy performance of the window and the climate zones that it is approved to be installed in to qualify as ENERGY STAR® rated. To the right of the label is an explanation of the required ENERGY STAR® criteria included in the label.







Figure A **Certification Label**



The Thermal Transmittance Value, also known as U-Value, identifies the factor that can be converted to R-Value. The U-Value of 0.32 converts to an equivalent R-value of 3.125. The lower the U-Value = a higher R-value.

Solar Heat Gain Coefficients identify the performance of blocking out the suns radiation through windows. The lower the value, the less radiation comes in through the window.

Visible Transmittance identifies the amount of visible light transmitted through the window. The higher the number, the more light is transmitted.

The U.S. Region Map is highlighted in climate zones the window is approved to be installed in. This window is ENERGY STAR® approved in all 50 States.

At Figure B are the new, more stringent guidelines. Indiana is located in two climate zones (Northern & North Central), where the Indiana map below at Figure C defines the line separating the North from the North Central Climate Regions.

NOTE: ENERGY STAR® reserves the right to raise the performance levels in the future.







Figure B Performance Levels							
Windows					Doors		
Climate Zone	U-Factor ¹	SHGC ²			Glazing Level	U-Factor ¹	SHGC ²
Northern	≤ 0.30	Any	Prescriptive		Opaque	≤ 0.21	Any
	= 0.31	≥ 0.35	Equivalent Energy		≤½ Lite	≤ 0.27	≤ 0.30
	= 0.32	≥ 0.40	Performance		> ½ Lite	≤ 0.32	≤ 0.30
North- Central	≤ 0.32	≤ 0.40			Skylights		
South - Central	< <u>0.35</u>	≤ 0.30			Climate Zone	U-Factor ¹	SHGC ²
Southern	≤ 0.60	≤ 0.27	-		Northern	<u>< 0.55</u>	Any
¹ BTU/h.ft²	,			North - Central	≤ 0.55	≤ 0.40	
² Fraction of incident solar radiation					South -Central	≤.057	≤ 0.30
					Southern	≤ 0.70	≤ 0.30

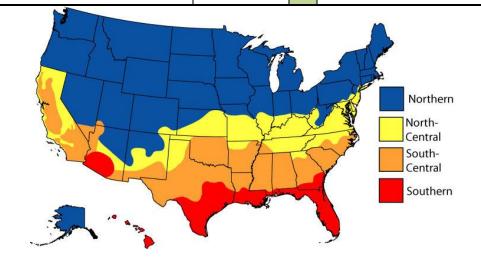






Figure C Climate Zone Map



www.indianahousing.org







Indiana Northern Region Counties are defined as all Counties North of the following Counties as follows:

North of Vigo, Greene, Monroe, Brown, Jackson, Jennings, Ripley, and Dearborn counties, where the counties of Vigo, Greene, Monroe, Brown, Jackson, Jennings, Ripley, and Dearborn, and all counties south of these counties are defined as North Central for reasons of choosing the proper Thermal Transmittance values (U-values) and Solar Heat Gain Coefficient (SHGC) values for ENERGY STAR® rated windows.

Low Emissivity (LOW-E) Coatings Alert:

Low-E coatings are only effective in providing the required performance levels when they are applied to the correct pane of glass and facing the correct direction.

To keep the sun's heat out of the house (for hot climates, east and west-facing windows, and unshaded south-facing windows), the Low-E coating should be applied to the outside pane of glass facing inside. If the windows are designed to provide heat energy in the winter and keep heat inside the house (typical of cold climates), the Low-E coating should be applied to the inside pane of glass facing out. The only exception to a location requirement of Low-E coatings would be if the window was ENERGY STAR® rated in all 50-States, as seen on the NFRC® label above in Figure A. Otherwise, the coating would need to be on the correct pane of glass facing the correct direction.

Manufacturers maintain tools to detect which side of the glazing the coating is applied to and to detect which pane the coating is on. This should be done during and after assembly to ensure windows are provided with the Low-E coatings on the correct side to meet the climate region criteria needed to perform properly.

Sometimes, for some unknown reason, ENERGY STAR® Low-E windows wind up being installed in the wrong regions. Southern region rated windows sometimes end up going to Northern regions for installation.

When this occurs, the windows are not assembled for the ENERGY STAR® rating when installed in the wrong regions unless they are ENERGY STAR® rated for all 50-States.

Indiana is in the North & North Central climate region as identified by the ENERGY STAR® Climate Zone map above at Figure C. When the Low-E coating is on the wrong pane for the climate zone it was installed in, the window will act with the opposite effects of Solar Heat gain (It will block out heat gain in cold climates and keep heat inside in hot climates).

When Tax Credit Applications identify that points were given for ENERGY STAR® rated fenestration products or ENERGY STAR® rated envelopes, all windows installed in the development will be required to have the Low-E coating on the inside pane facing out regardless





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of the location of the development in Indiana, unless they are ENERGY STAR® rated for all 50-States.

Tools are available that will help ensure Low-E coatings are properly placed on the right pane of glass facing the correct direction.

Low-E Detector

Low-E coating detectors detect the presence and location of Low-E coatings on glazing (windows). The only way to determine if the coating exists, and where it is placed, is to obtain a Low-E coating detector and test the windows to be installed. Low-E detectors will help in confirming that ENERGY STAR® windows meet climate zone criteria.

IHCDA will be utilizing a Low E detector to help ensure that ENERGY STAR® rated windows have this Low-E coating, when required, and that the coating is in the proper location.

